

RETURN TO USE INITIATIVE

2009 Demonstration Project

LONGHORN ARMY AMMUNITION PLANT: Karnack, Texas

THE SITE: The Longhorn Army Ammunition Plant (LHAAP) Superfund site (the Site) occupies approximately 8,490 acres of land in Karnack, Texas. LHAAP was established in 1942 to produce 2, 4, 6-trinitrotoluene (TNT) in support of military operations during World War II. After the war, the facility continued to perform a range of functions that included loading, assembling and packing ammunition; manufacturing solid propellant rocket motors and plastic explosives; and missile production and destruction. In 1984, the Army determined that site operations had left sediments, soils, ground water and surface water at various locations on the property contaminated with metals, volatile organic compounds (VOCs), perchlorate, TNT and several nitro aromatic compounds. EPA added the Site to the Superfund National Priorities List in 1990. Remedial actions included the excavation and treatment of soil and sediment, and installation of a ground water treatment plant. In March 2001, the Army upgraded the ground water treatment plant to more aggressively address perchlorate concentrations that ranged from 1000 to 2000 times the discharge criteria of 13 micrograms per liter. The ground water treatment plant continues to operate at the Site.

THE OPPORTUNITY: In July 1997, the Army liquidated or demolished all facilities at LHAAP and discontinued use. LHAAP is located adjacent to the Caddo Lake State Park and Wildlife Management Area and contains one of the highest quality old-growth bottomland hardwood forests in the southeastern United States. The wetlands area along the shore of Caddo Lake is listed as a Ramsar "Wetland of International Significance" and is one of only 17 such designated sites in the United States. In 1998, the U.S. Fish and Wildlife Service (USFWS) expressed an interest in receiving a no-cost transfer of the lands to establish the Caddo Lake National Wildlife Refuge.



PICTURED: Abandoned powerhouse facility on LHAAP property. (source: Marshall News Messenger)

BARRIER: Long-term remediation goals could delay land transfer and establishment of Refuge.

SOLUTION: MOA between government agencies to establish overlay refuge and land transfer plan.



PICTURED: Wetlands in Caddo Lake National Wildlife Refuge. (source: U.S. Fish and Wildlife Service)

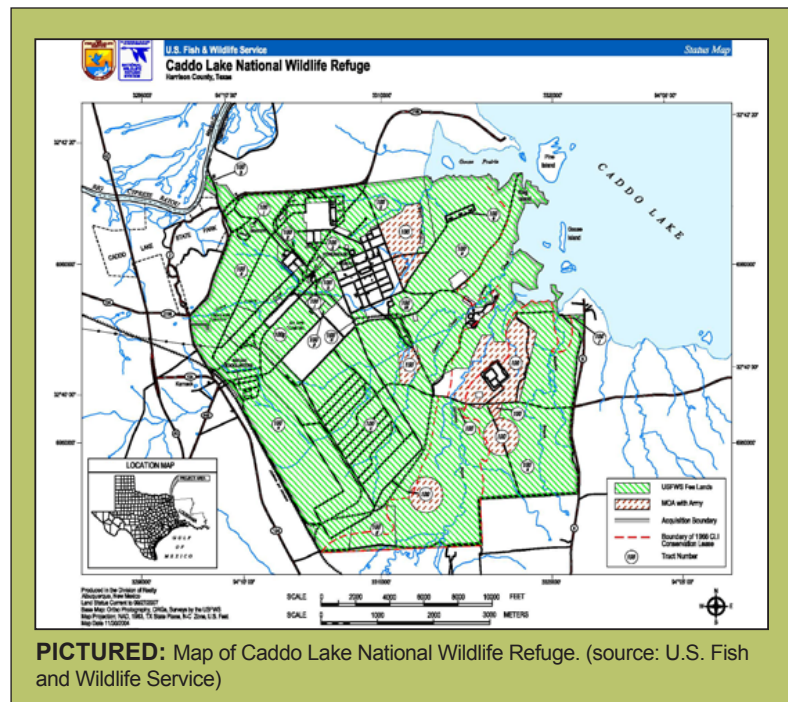
BEFORE: Vacant former military facility in valuable ecosystem.

AFTER: Incorporated into 7,000-acre Caddo Lake National Wildlife Refuge.

THE BARRIER: Before the Department of the Army (DA) could officially transfer lands to USFWS, the agencies had to reach an agreement on what the post-transfer responsibilities of each agency would be. Since EPA had designated most of the areas of known contamination as a Superfund site, it was important to consider what stage of the remediation process the properties were in and whether the contaminant levels met EPA and USFWS standards. At the time, DA and USFWS knew that cleanup of surface and ground water in some of these areas could entail long-term remediation.

THE SOLUTION: In April 2004, DA and USFWS entered into a Memorandum of Agreement (MOA) that set forth the transfer process for LHAAP lands and established the Caddo Lake National Wildlife Refuge as an overlay refuge. Under the overlay refuge designation, USFWS would manage the refuge and wildlife, while DA would retain primary jurisdiction and control of lands until they had completed the cleanup. As DA completes portions of the Site, they will transfer the land parcels into the primary jurisdiction, custody and control of USFWS. EPA continues to monitor and facilitate Site remediation and the establishment of the National Wildlife Refuge.

THE SITE NOW: As of July 2008, DA has transferred approximately 7,000 of the 8,490 LHAAP acres to USFWS jurisdiction as part of the Caddo Lake National Wildlife Refuge. By establishing this refuge, the agencies will ensure that the migratory and resident waterfowl and neotropical migratory birds associated with these wetlands are conserved and protected. Studies have listed up to 224 species of birds, 22 species of amphibians, 46 species of reptiles, 93 species of fish and 500 species of plants in this area. Approximately 20 animal species of concern live on and near the LHAAP property, including



PICTURED: Map of Caddo Lake National Wildlife Refuge. (source: U.S. Fish and Wildlife Service)

the Louisiana black bear, which is federally listed as threatened under the Endangered Species Act. In 2009, a renewable energy viability study found the Site has adequate space and infrastructure for a solar array; however, the study also found it might be difficult for the solar array to pay for itself within a reasonable timeframe. If site stakeholders pursue solar energy at the Site, additional economic and electric use data will need to be collected. The Caddo Lake National Wildlife Refuge opened to the public September 26, 2009. Visitors can explore wildlife observation trails, enjoy an auto tour and participate in hunting expeditions. The Site also houses the Ramsar Caddo Lake Wetlands Visitors Center where visitors can learn about why the wetland is a “Wetland of International Significance”.

FOR MORE INFORMATION, PLEASE CONTACT: Stephen Tzhone, Remedial Project Manager, at (214) 665-8409 or tzhone.stephen@epa.gov; or Casey Luckett Snyder, Region 6 Superfund Redevelopment Coordinator, at (214) 665-7393 or luckett.casey@epa.gov.